

Application No. 10/086,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

REMARKS:**Status Of Claims**

Claims 1-21 and 31-37 were previously pending. Claims 1 and 6 have been amended. Thus, claims 1-21 and 31-37 are currently pending in the application with claims 1, 10, 16, 31, 32, and 36 being independent.

Office Action

Applicant would like to thank the Examiner for indicating that claims 32-37 are allowed.

In the office action, the Examiner rejected claims 1, 3, 5-6, 16, 18, 21, and 31 under 35 U.S.C. 102(b) as being anticipated by Moss et al., U.S. Patent No. 6,144,549. The Examiner also rejected claims 2 and 9 under 35 U.S.C. 103(a) as being unpatentable over Moss in view of Clapgood, U.S. Patent No. 6,356,441. The Examiner also rejected claims 4 and 17 under 35 U.S.C. 103(a) as being unpatentable over Moss in view of Welch, U.S. Patent No. 4,743,200. The Examiner also rejected claims 7, 8, 13, and 20 under 35 U.S.C. 103(a) as being unpatentable over Moss in view of Chikawa, U.S. Patent Application Publication No. 2002/0024802. The Examiner also rejected claims 10, 11, 14, and 15 under 35 U.S.C. 103(a) as being unpatentable over Moss in view of Revis, U.S. Patent No. 6,359,775. The Examiner also rejected claim 12 under 35 U.S.C. 103(a) as being unpatentable over Moss in view of Revis, in further view of Welch. The Examiner also rejected claim 19 under 35 U.S.C. 103(a) as being unpatentable over Moss. Applicant respectfully submits that the currently pending claims distinguish the present invention from

Application No. 10/086,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

Moss, Claprood, Welch, Chikawa, Revis, and the other prior art references of record, taken alone or in combination with each other.

Specifically, claim 1 now recites "a display unit having a display screen located directly in front of the electronic module and in communication with the electronic module, the display unit having a first range of mounting locations with respect to the electronic module, wherein the display screen remains usable and directly in front of the electronic module throughout the first range of mounting locations". Thus, claim 1 requires that *the* display screen both remain "usable and directly in front of the electronic module throughout the first range of mounting locations".

In contrast, Moss's display screens 140,240 both rotate about a pivot point 160, which appears to be "directly in front of the electronic module" 190. Thus, the display screens 140,240 themselves are never "directly in front of the electronic module" 190 in either their upper or lower positions. Furthermore, no single display screen is usable in more than one mounting location. For example, the Examiner points to Moss' figures 1 and 2, to show a range of mounting locations. Specifically, Moss' figure 1 shows his display screens 140,240 rotated downwards, wherein the display screens 140,240 are below the electronic module 190. In this position, display screen 240 is unusable because it is hidden, and therefore a user is forced to rely on display screen 140. Similarly, Moss' figure 2 shows his display screens 140,240 rotated upwards, wherein the display screens 140,240 are above the electronic module 190. In this position, display screen 140 is unusable because it is hidden, and therefore a user is forced to rely on display screen 240. Thus, in neither of these positions is either one of Moss' display screens 140,240 "directly

Application No. 10/086,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

in front of the electronic module" 190. Rather, they are either above of below the module 190. Additionally, each of Moss' display screens 140,240 are only usable in one of the mounting locations. As a result, Moss simply does not disclose, suggest, or make obvious "a display unit having a display screen located directly in front of the electronic module and in communication with the electronic module, the display unit having a first range of mounting locations with respect to the electronic module, wherein the display screen remains usable and directly in front of the electronic module throughout the first range of mounting locations", as claimed in claim 1.

Claim 2 recites "a second mounting frame coupled between the electronic module and the first mounting frame along a second range of mounting locations with respect to the first mounting frame". Similarly, claim 9 recites "wherein the second range of mounting locations includes a horizontal range of mounting locations". For example, figure 1C, of the present specification, shows an example of this relationship. Similarly, figure 1D, of the present specification, shows an example of the overall relationship between the electronic modules and the display. Specifically, in the above referenced examples, the display may be mounted anywhere along the first range 104 and the electronic modules may be mounted anywhere along the second range 108.

In contrast, the Examiner admits that Moss does not disclose this limitation. However, the Examiner mistakenly asserts that Claprood does disclose this limitation. Specifically, the Examiner points to Claprood's guides 112 as providing "a horizontal range of mounting locations". However, as disclosed in column 7, lines 51-52, "housing guides 112, 114 facilitate motion of the housing 104 within the support structure 84". In other

Application No. 10/086,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

words, the guides 112 simply facilitate sliding the housing 104 into the support structure 84. They do not provide any range of mounting locations. In fact, the housing 104 must be fully seated within support structure 84 in order for the connector 90 to connect with portion 116 of the daughter card 108. Only when fully seated may Claprood's housing 104 be truly *mounted*. With the housing 104 in any other position with respect to, except fully seated within, the support structure 84, the housing 104 is simply not *mounted*. Thus, Claprood only provides one "mounting location", rather than any range of mounting locations. As a result, no combination of Moss and/or Claprood discloses, suggests, or makes obvious "a second mounting frame coupled between the electronic module and the first mounting frame along a second range of mounting locations with respect to the first mounting frame", as claimed in claim 2, or "wherein the second range of mounting locations includes a horizontal range of mounting locations", as claimed in claim 9.

Claim 4 recites "wherein the mounting surface includes a cockpit instrument panel". Similarly, claim 12 recites "wherein the avionic mounting surface includes a cockpit instrument panel". Finally, claim 17 recites "wherein the avionic mounting surface includes a cockpit instrument panel". In contrast, neither Moss nor Revis even includes the words "cockpit", "instrument", or "avionic". Specifically, rather than being directed to an avionic instrument mounting system, as claimed in these claims, Moss and Revis are both directed to modules for personal computers.

Thus, the Examiner cites Welch for teaching this function. Applicant admits that Welch does include the term "cockpit instrument panel". However, Welch simply does not disclose mounting anything to "a cockpit instrument panel". Rather, even a quick reading

Application No. 10/086,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

of the cited portion reveals that Welch is concerned with the mounting of an optical assembly 7 which "allows the observer to see his immediate environment, such as a cockpit instrument panel for a pilot, as well as the replica of the image", which is provided by the optical assembly 7. Thus, Welch actually teaches mounting the optical assembly 7 so as not to block the instrument panel, rather than mounting anything to "a cockpit instrument panel". As a result, no combination of Moss and/or Welch discloses, suggests, or makes obvious "wherein the mounting surface includes a cockpit instrument panel", as claimed in claim 4, or "wherein the avionic mounting surface includes a cockpit instrument panel", as claimed in claims 12 and 17.

Claim 7 recites "wherein the first range of mounting locations includes a vertical range of mounting locations". Similarly, claim 8 recites "further including three dimensional ranges of mounting locations of the single display unit with respect to the electronic module". In rejecting these claims, the Examiner mistakenly asserts that Chikawa discloses various ranges of mounting locations 10,11, as shown in figures 3A, 3B, and 4. However, rather than disclosing any "range of mounting locations", Chikawa simply disclosed a plurality of mounting elements. For example, as shown in figures 1 and 2, Chikawa's LCD module 1 includes eight pin electrodes 6, four on each side of a lower section 3 thereof. The module 1 is folded in half, as shown in figure 2, with the pin electrodes 6 extending downwardly. Then, as shown in figures 4 and 5, the module 1 is slid into a housing 7. The module 1 is secured to the housing 7 by forcing two protrusions 10 through cross cuts 30 in the lower section 3 of the module 1, as shown in figure 5. Finally, as shown in figure 4, the housing 7 is forced onto a substrate 15. Here, as shown

Application No. 10/086,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

in figure 5, holding members 11 snap around the substrate 15 and the pin electrodes 6 penetrate hole electrodes 16 in the substrate 15. Thus, Chickawa certainly teaches a plurality of mounting elements. However, as there are exactly two protrusions 10, exactly two cross cuts 30, exactly eight pin electrodes 6, and exactly eight hole electrodes 16, Chickawa's assembly can only be assembled one way, with each component uniquely located with respect to the other components. This type of one way assembly is exactly what the present invention seeks to avoid. As a result, no combination of Moss and/or Chickawa discloses, suggests, or makes obvious the limitations claimed in claim 7 or 8.

Claim 10 recites "a second mounting frame coupled to each of the electronic modules and coupled to the first mounting frame along a module range of mounting locations with respect to the first mounting frame" and "a display unit located directly in front of the plurality of electronic modules and in communication with the electronic modules, the display unit having a display range of mounting locations with respect to the electronic modules". Thus, claim 10 requires that the electronic modules be mounted "along a module range of mounting locations" and the display have "a display range of mounting locations". Simply put, claim 10 requires two ranges, one range for the electronic modules and one range for the display. Finally, claim 10 also requires the display to be "located directly in front of the plurality of electronic modules".

The Examiner acknowledges that "Moss et al does not disclose a display unit located directly in front of the plurality of electronic modules and in communication with the electronic modules, the display unit having a display range of mounting locations with respect to the electronic modules." However, the Examiner mistakenly relies on Revis to

Application No. 10/085,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

show this limitation. As shown in his figures, Revis' display 128 is located to the side of his electronic modules 166,168. While Revis's display is located in front of the internal components of his unit, those internal components are fixedly mounted and simply do not have any "range of mounting locations". Simply put, Revis simply does not disclose "a display unit [having a display range of mounting locations with respect to the electronic modules] and located directly in front of the plurality of electronic modules [themselves having a module range of mounting locations]", as claimed in claim 10.

Furthermore, Revis simply does not teach any display "located directly in front of the plurality of electronic modules". Rather, Revis only teaches his display 128 being located in front of one electronic module, namely his motherboard 132, which does not have any "range of mounting locations".

Finally, Revis' display 128 is only *mounted* when in the position shown in figure 1. When in the position shown in figure 3, Revis' display 128 is loosely rotatable about hinge 124, thereby moving from "directly in front of" the motherboard 132, and is certainly not *mounted*. Thus, Revis' display 128 only has one true *mounting* location directly in front of *an* electronic module. In any case, Revis' motherboard 132 may only be mounted in one location, and therefore simply cannot be a surrogate for "the plurality of electronic modules [having a module range of mounting locations]", as claimed in claim 10. As a result, no combination of Moss and/or Revis discloses, suggests, or make obvious "a second mounting frame coupled to each of the electronic modules and coupled to the first mounting frame along a module range of mounting locations with respect to the first mounting frame" and "a display unit located directly in front of the plurality of electronic

Application-No. 10/086,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

modules and in communication with the electronic modules, the display unit having a display range of mounting locations with respect to the electronic modules", as claimed in claim 10.

Claim 11 recites "wherein a front face of each electronic module includes a long axis and a short axis, and wherein each electronic module is coupled to the second frame with the long axis oriented vertically". In contrast, as previously argued, both Moss and Revis show and describe just the opposite. Specifically, their electronic modules are shown and described as having a long axis oriented horizontally. While it may be possible, as the Examiner asserts, that their electronic modules could have a long axis oriented vertically, neither Moss nor Revis actually teach that. Nor do they provide any motivation for doing so. In this regard, the MPEP requires not only that the proposed combination of the references actually teach each limitation, but the references must also include some motivation for making the proposed combination. Both of these requirements are clearly lacking in this case. As a result, no combination of Moss and/or Revis discloses, suggests, or makes obvious "wherein a front face of each electronic module includes a long axis and a short axis, and wherein each electronic module is coupled to the second frame with the long axis oriented vertically", as claimed in claim 11.

Claim 14 recites "wherein the plurality of electronic modules are coupled behind the avionic mounting surface". In contrast, neither Moss nor Revis discloses any "avionic mounting surface", and therefore simply cannot make obvious mounting anything therebehind. Furthermore, the Examiner's assertion that "the plurality of electronic modules (190 and 325) are coupled behind the mounting surface (mounting surface of the

Application No. 10/086,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

chassis 310)" is mistaken. As shown in figure 3, Moss's modules 190,325 extend well beyond the chassis 310. As a result, no combination of Moss and/or Revis discloses, suggests, or makes obvious "wherein the plurality of electronic modules are coupled behind the avionic mounting surface", as claimed in claim 14.

Claims 15 and 21 each recite "wherein the module range of mounting locations includes a horizontal range of mounting locations". Therefore, these claims require that the electronic modules are coupled to the first frame along a "horizontal range of mounting locations". It was previously noted that mounting electronic modules along a vertical range is the current industry practice. Therefore, mounting electronic modules along a horizontal range is a significant departure from current industry practice.

In contrast, as previously argued, both Moss and Revis simply show and describe the current practice; albeit, in a completely different industry. Specifically, both Moss and Revis are concerned with the personal computer industry, rather than the avionics industry of the present invention. However, on this one issue, both industries follow the same practice. In each case, the prior art electronic modules are shown and described as being mounted along a vertical range of mounting locations. While it may be possible, as the Examiner asserts, that their electronic modules could be mounted along a horizontal range, neither Moss nor Revis actually teach that. Nor do they provide any motivation for doing so. In this regard, the MPEP requires not only that the proposed combination of the references actually teach each limitation, but the references must also include some motivation for making teach the proposed combination. Both of these requirements are clearly lacking in this case. As a result, no combination of Moss and/or Revis discloses,

Application No. 10/086,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

suggests, or makes obvious "wherein the module range of mounting locations includes a horizontal range of mounting locations", as claimed in claims 15 and 21.

Claim 16 recites "wherein the module range of mounting locations is arranged substantially perpendicular to the display range of mounting locations". In contrast, both Moss and Revis show and disclose just the opposite. For example, both Moss and Revis show and disclose their respective electronic modules being mounted along a vertical range. Additionally, both Moss and Revis show and disclose their respective displays having vertical movement along a vertical range. Therefore, both Moss and Revis show and disclose the ranges of both the electronic modules and the displays as parallel, rather than "substantially perpendicular" as claimed in claim 16. As a result, no combination of Moss and/or Revis discloses, suggests, or makes obvious "wherein the module range of mounting locations is arranged substantially perpendicular to the display range of mounting locations", as claimed in claim 16.

Claim 31 recites "a first mounting frame adapted for mounting to an avionic mounting surface", "a plurality of electronic modules", "a second mounting frame coupled to each of the electronic modules and coupled to the first mounting frame along a module range of mounting locations with respect to the first mounting frame", "a display unit located directly in front of the first mounting frame, the display unit having a display range of mounting locations with respect to the first mounting frame", and "wherein the module range of mounting locations is arranged substantially perpendicular to the display range of mounting locations". Thus, claim 31 is essentially a combination of claims 10 and 16.

Application No. 10/086,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

In contrast, as discussed above, neither Moss nor Revis discloses anything being "adapted for mounting to an *avionic* mounting surface" or "the module range of mounting locations [being] arranged substantially perpendicular to the display range of mounting locations". As a result, Moss simply cannot anticipate the limitations of claim 31. Furthermore, no combination of Moss and/or Revis discloses, suggests, or makes obvious "a first mounting frame adapted for mounting to an avionic mounting surface", "a plurality of electronic modules", "a second mounting frame coupled to each of the electronic modules and coupled to the first mounting frame along a module range of mounting locations with respect to the first mounting frame", "a display unit located directly in front of the first mounting frame, the display unit having a display range of mounting locations with respect to the first mounting frame", and "wherein the module range of mounting locations is arranged substantially perpendicular to the display range of mounting locations", as claimed in claim 31.

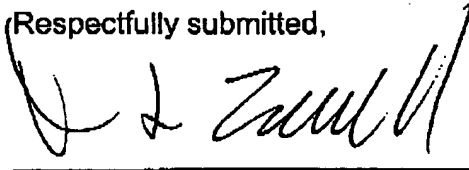
The remaining claims all depend directly or indirectly from independent claims 1, 10, or 16, and are therefore also allowable.

Application No. 10/086,483
Amendment dated October 4, 2005
Reply to Office Action of September 9, 2005

Any additional fee which is due in connection with this amendment should be applied against our Deposit Account No. 501-791. In view of the foregoing, a Notice of Allowance appears to be in order and such is courteously solicited.

Respectfully submitted,

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